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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/646,543 | 08/21/2003 | Stefan Braun | SPM-365-A | 9852 |

7590 07/09/2007
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| EXAMINER |
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LUND, JEFFRIE ROBERT

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| ART UNIT | PAPER NUMBER |
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1763

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| MAIL DATE | DELIVERY MODE |
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07/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/646,543

Applicant(s)

BRAUN ET AL.

Examiner

Jeffrie R. Lund

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-12 and 15-23 is/are pending in the application.
- 4a) Of the above claim(s) 8, 10 and 16-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11, 12 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7, 11, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bollinger et al, US Patent 6,762,136 B1, in view of Mori et al, US Patent Application Publication 2002/0187265 A1, and Ito, JP 60-181264.

Bollinger et al teaches a processing apparatus that includes: a plasma particle source 40, 42, 44, 50; a drive means for rotating and providing oscillatory movement along an axis of the substrate. (Figure 2, column 9 lines 30-33)

Bollinger et al differs from the present invention in that Bollinger et al does not teach: a mask movable with the substrate about a common axis.

Mori et al teaches an apparatus for depositing a layer on a substrate that includes: a mask 200; a drive means 430 for rotating the mask and the substrate together with respect of the particle source by rotation of both the substrate 1 and the mask 200 about a common axis of rotation. (Figure 18)

The motivation for adding the mask of Mori et al to the substrate holder of Bollinger et al is to limit the surface of the substrate exposed to the particle source as taught by Mori et al and is well known in the art.

Bollinger et al and Mori et al differ from the present invention in that they do not

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teach: that the mask has a ratio of free cross-sections of said perforations of the mask per area unit that is varied over the total surface or area of the mask and the distance of the substrate.

Ito teaches a mask 7 having a ratio of free cross-sections of the perforations 7a being discretely present in the mask and the intermediate web surface that varies over the total surface, and the respective distance of the substrate surface. (Figure 1d)

The motivation for forming the mask of Bollinger et al and Mori et al with the pattern of Ito is to enable the apparatus of Bollinger et al and Mori et al to deposit a film having a desired distribution (i.e. gradient) as taught by Ito, and to provide a specific pattern for the mask as is required but only generically disclosed by Mori et al.

Furthermore, it has been held that a change in shape is a matter of choice which a person of ordinary skill in the art would have found obvious. (See *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) MPEP 2144.04.IV.B)

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the mask of Mori et al to the substrate holder of Bollinger et al and to form the pattern taught by Ito in the mask of Bollinger et al and Mori et al.

3. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bollinger et al, Mori et al, and Ito as applied to claims 1-7, 11, and 15 above, and further in view of Baldwin et al, US Patent Application Publication 2002/0131182 A1.

Bollinger et al, Mori et al, and Ito differ from the present invention in that they do not teach that the plasma particle source is a magnetron sputtering source.

Baldwin et al teaches a magnetron sputtering source 18.

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The motivation for replacing the plasma particle source of Bollinger et al, Mori et al, and Ito with a magnetron sputtering source is to provide an alternate and equivalent particle material source, and enable the apparatus of Bollinger et al, Mori et al, and Ito to deposit material by sputtering.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the plasma particle source of Bollinger et al, Mori et al and Ito with the magnetron sputtering source of Baldwin et al.

Response to Arguments

4. Applicant's arguments with respect to claims 1-7, 11, 12, and 15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

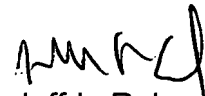
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art teaches the technological background of the invention.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (571) 272-1437. The examiner can normally be reached on Monday-Thursday (10:00 am - 9:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrie R. Lund
Primary Examiner
Art Unit 1763

JRL
7/5/07